1.9
P69P

Main Library
LIBRARY
RECEIVED
★ FEB 11 1930 ★
U. S. Department of Agriculture

THE PLANT DISEASE REPORTER

ISSUED BY THE OFFICE OF MYCOLOGY AND DISEASE SURVEY

Volume XIV **Number 3**

February 1, 1930

BUREAU OF PLANT INDUSTRY

UNITED STATES DEPARTMENT OF AGRICULTURE

THE PLANT DISEASE REPORTER

Issued by

THE PLANT DISEASE SURVEY

OFFICE OF MYCOLOGY AND DISEASE SURVEY

Vol. XIV February 1, 1930 Number 3

METHODS OF CITING THE PLANT DISEASE REPORTER

As one glances through the current literature a lack of uniformity will be noted in the form and method of making citations to notes and articles from the Plant Disease Reporter. The Reporter is different from most publications in that it is composed of many short notes and summaries, with numerous headings and subheadings, so that the best way to make an exact and definite reference sometimes presents difficulties. It would doubtless be helpful to many pathologists and editors if a more or less standard method of citation could be followed.

In the following notes Miss Allen of the Bureau of Plant Industry Library has presented, with examples of specific cases, the system followed in Department of Agriculture publications, and the Editor of Phytopathology and the Associate Editor of Biological Abstracts have told how this system conforms to usage in their journals. It will be noted that all three are in practical agreement and therefore, in the interests of uniformity, it would be well for authors to consider following the method suggested wherever feasible. (R. J. Haskell, Jan. 29).

CITATIONS FROM PLANT DISEASE REPORTER

By Jessie M. Allen

As inquiries have been received in regard to the correct way to refer to a disease reported in the Plant Disease Reporter, the Bureau of Plant Industry Library was asked to furnish information and has submitted the following citation examples. These are in footnote form as used in Department of Agriculture publications, where mimeographed material is not included in Literature Cited. Additional information such as name of disease, host, region, reporter or examiner, first occurrence, etc., should preferably be given in text if the manuscript is to be published by the Department. For outside publication these items may be in note following the citation. (Example no. 18).

The collaborator's or reporter's name is used as author, whether it appears following title, in introductory paragraph or at end of report. (Examples no. 1, 2, 6, 8, 19). If the report is not a direct quotation, collaborator's name may be used as author but is put in square brackets to show that it has been supplied and does not appear in the usual way as author. (Examples no. 5, 11, 15).

Where several reports are given under a general title, usually the specific title for each report should be cited following the general one. (Examples no. 3, 4, 7). If the general title is not significant, as "Specimens received," the specific one only may be used. (Example no. 9). If quotation is made from another publication, the original publication should be cited if available. (Examples no. 12, 17). If not available, a note may follow citation. (Examples no. 4, 13). When the author of the article or report is not indicated, entry is made under the Bureau of Plant Industry or other institution responsible for the information. (Examples no. 7, 9, 10, 14, 16, 18, 20).

The references in the Botanical Catalogue and in Botany-Current Literature mimeographed list are somewhat different in form and abbreviations from those in Department publications. (Examples no. 21, 22).

EXAMPLES

Form used in Department of Agriculture Publications

Volume 13, No. 1

(1) Bach, W. J., and Taubenhaus, J. J. Black rot of cabbage in the Lower Rio Grande Valley, Texas. U. S. Dept. Agr., Bur. Plant Indus. Plant Dis. Rptr. 13: 3-4. 1929. [Mimeographed]

(2) Jehlé, R. A. Tobacco wildfire in Maryland. U. S. Dept. Agr., Bur. Plant Indus. Plant Dis. Rptr. 13: 4. 1929. [Mimeographed]

(3) Doran, W. L. Notes on apple scab, Massachusetts. U. S. Dept. Agr., Bur. Plant Indus. Plant Dis. Rptr. 13: 5. 1929. [Mimeographed]

(4) Mills, W. D. Notes on apple scab, New York. U. S. Dept. Agr., Bur. Plant Indus. Plant Dis. Rptr. 13: 5. 1929. [Mimeographed] (From New York Weekly News Letter, Apr. 22)

(5) [Salisbury, W. S.] Cedar rust. U. S. Dept. Agr., Bur. Plant Indus. Plant Dis. Rptr. 13: 7. 1929. [Mimeographed]

(6) McWhorter, F. P. Observation on narcissus mosaic in Virginia. U. S. Dept. Agr., Bur. Plant Indus. Plant Dis. Rptr. 13: 8. 1929. [Mimeographed]

(7) United States Department of Agriculture. Bureau of Plant Industry. Tylenchus dipsaci on bulbs, Onion. U. S. Dept. Agr., Bur. Plant Indus. Plant Dis. Rptr. 13: 9. 1929. [Mimeographed]

(8) Weiss, F. Rhizoctonia solani on tulip. U. S. Dept. Agr., Bur. Plant Indus. Plant Dis. Rptr. 13: 9. 1929. [Mimeographed]

(9) United States Department of Agriculture. Bureau of Plant Industry. Vegetable crops: Ascochyta lycopersici Brun. Stem and leaf blight of tomato. U. S. Dept. Agr., Bur. Plant Indus. Plant Dis. Rptr. 13: 10. 1929. [Mimeographed]

Volume 13, No. 2

(10) United States Department of Agriculture. Bureau of Plant Industry. Phony peach quarantine and eradication measures. U. S. Dept. Agr., Bur. Plant Indus. Plant Dis. Rptr. 13: 19-20. 1929. [Mimeographed]

(11) Stevens, N. E. Botrytis rot of strawberries. U. S. Dept. Agr., Bur. Plant Indus. Plant Dis. Rptr. 13: 21. 1929. [Mimeographed]

Volume 13, No. 3

(12) Clark, J. A. Characteristics and performance of Hope and H-44 wheats. 8 p. 1929. (Off. Cereal Crops and Dis.) [Mimeographed]

(13) [Clark, J. A.] Two disease resistant wheats. U. S. Dept. Agr., Bur. Plant Indus. Plant Dis. Rptr. 13: 29. 1929. [Mimeographed] (From Characteristics and performance of Hope and H-44 wheats, 1929. Mimeographed leaflet Off. Cereal Crops and Dis.)

Volume 13, No. 5

(14) United States Department of Agriculture. Bureau of Plant Industry. Apple scab (Venturia inaequalis). U. S. Dept. Agr., Bur. Plant Indus. Plant Dis. Rptr. 13: 64. 1929. [Mimeographed]

(15) [Whitney, W. A.] Bean diseases in Maryland. U. S. Dept. Agr., Bur. Plant Indus. Plant Dis. Rptr. 13: 71-72. 1929. [Mimeographed]

Volume 13, No. 8

(16) Minnesota Agricultural Experiment Station. Section of Plant Pathology. Reports on other Minnesota potato diseases. Early blight (Alternaria solani). U. S. Dept. Agr., Bur. Plant Indus. Plant Dis. Rptr. 13: 119. 1929 [Mimeographed]

Volume 13, No. 14

(17) Phony peach quarantine modified. U. S. Dept. Agr., Off. Rec. 8 (46): 5. 1929.

(18) United States Department of Agriculture. Bureau of Plant Industry. Botryosphaeria ribis Gross and Dugg. on Populus sp. (Chinese Lombardy poplar). U. S. Dept. Agr., Bur. Plant Indus. Plant Dis. Rptr. 13: 175. 1929. [Mimeographed] (Specimen received from V. H. Young, determined by G. H. Martin; first report from Arkansas)

Supplements

(19) Young, P. A., and Morris, H. E. Plant diseases in Montana in 1928. U. S. Dept. Agr., Bur. Plant Indus. Plant Dis. Rptr. Sup. 69, p. 110-175, illus. 1929. [Mimeographed]

(20) United States Department of Agriculture. Bureau of Plant Industry. Crop losses from plant diseases in the United States in 1927. U. S. Dept. Agr., Bur. Plant Indus. Plant Dis. Rptr. Sup. 64, p. 370-399. 1928. [Mimeographed]

Form used in Botany - Current Literature

Volume 13, No. 1

(21) Wellman, F. L. A new disease of stored onions found in Colorado. U. S. Dept. Agr., Plant Dis. Rep. 13: 2. My. 15, 1929.

Supplements

(22) Young, P. A., and Morris, H. E. Plant diseases in Montana in 1928. U. S. Dept. Agr. Plant Dis. Rep. Suppl. 69: 110-175. 1 pl, 7 maps. My. 15, 1929 (Rec'd Jl.)

(Bureau Plant Industry Library, Jan. 23, 1930)

METHOD OF CITING REPORTER IN PHYTOPATHOLOGY

In response to inquiry as to the accepted manner of citing in Phytopathology references to plant-disease observations or research published in the Plant Disease Reporter, the Editor of Phytopathology recommends the adoption of the method employed in the fore-going examples given by Miss Allen. Any supplementary information the writer may wish to include should be in the text rather than in the citation. Citations from the Plant Disease Reporter should be included as "literature cited" except in those cases where the total number of citations does not exceed five. Otherwise, these and other citations will appear in footnote form. (H. B. Humphrey, Editor Phytopathology, Jan. 25)

CITATION FROM STANDPOINT OF BIOLOGICAL ABSTRACTS

Concerning the proposed form of citation for material in the Plant Disease Reporter, I may say that I am particularly interested, as we are thinking of including references in Biological Abstracts to material contained therein. Our form would be essentially like that presented in the samples submitted, with slight changes in abbreviations and inclusion of issue number in parentheses, to conform to our general policy, for example:

MILLS, W. D. Notes on apple scab, Massachusetts. U. S. Dept. Agric., Bur. Pl. Indust. Plant Dis. Rptr. 13(1): 5. 1929. [Mimeographed]

I am glad that you are taking steps toward uniformity of citation for the Plant Disease Survey material and if we cover the material, as I expect we will, the citations will follow essentially the scheme proposed. (Frederick V. Rand, Associate Editor Biological Abstracts, Jan. 25)

MAILING LIST PLANT DISEASE REPORTER AND SUPPLEMENTS

Classification	No. persons on list: Reporter	Supplements
Collaborators (in states)	196	196
Pathologists and others in states	418	385
Pathologists and others in U. S. Department of Agriculture, Washington	91	91
Pathologists outside the United States	42	72
Totals	747	744

LITERATURE REVIEW

THE RUSTS OF PENNSYLVANIA

Pennsylvania Agr. Exp. Sta. Bul. 239: 1-53. May 1929, entitled "The Rusts of Pennsylvania" by Kern, Thurston, Orton and Adams, which has just been received, will be found very useful by those interested in mycological and survey work. The report includes all the rusts that are known in the state arranged according to the natural classification by family, genus and species. A very useful host index and a generic index are also given.

"There are listed 158 species of rust fungi belonging to 21 genera, and 412 species of hosts, representing 61 families and 183 genera of higher plants. Of the 158 rusts, 80 are known to be heteroecious, 69 autoecious, and the life history of 9 in this respect is unknown." (R. J. Haskell, Jan. 28)

0 0 0 0

DISEASES OF VEGETABLES

SCABBY POTATOES (ACTINOMYCES SCABIES)

The losses from potato scab have always been difficult to estimate. The loss is not one of reduction in yield but rather of grade and quality. And so, the recent bulletin from the Vermont Experiment Station by B. F. Lutman on, "The Value of Scabby Potatoes" (Bulletin 297, 1929), is particularly welcome by those interested in developing better methods of evaluating the losses from scab or from plant diseases in general.

Lutman has calculated that scabby potatoes are actually worth about 25 per cent less than clean potatoes. He says:

> "Ordinary paring losses on clean and scabby potatoes may be expected to approximate 10 and 33 per cents respectively. On this basis, at the rate of a dollar a bushel for clean tubers, scabby tubers would be worth 82 cents, if one looks at actual nutrition values and shuts one's eyes to the fact that they are relatively unsalable and can not be baked to advantage. Their spring values would be still further decreased by increased water losses in storage, 82 cents becoming 76 cents."

In estimating losses from potato scab in the future, this work should be taken into account.

In this connection, Collaborator Charles Chupp has sent in an interesting report on scab losses in New York for 1929. Whether or not Lutman's figures were employed in making the estimates is not clear.

> "Estimated total loss for State - 3.5 per cent, as averaged from reports of all growers and county agents. This seems small and probably is more nearly 5 per cent."

Table 2. Prevalence and losses from potato scab in New York Counties, 1929.

County	Reporter	Prevalence as compared with		Per cent loss
		Last year	Average year	
Suffolk	Been	more	-	0.5
Genesee	Call	more	-	0.5
Nassau	Campbell	same	-	2
Tioga	Dean	more	more	3.5
Genesee (Elba)	Felix	-	slightly more	Trace
Franklin	Leavitt	almost none	almost none	0
Monroe	Livermore	more	more	5
Wyoming	Lucas	more	-	5
Livingston	Mehlenbacher	more	more	2-3
Monroe	Merrill	more	more	-
Onondaga	Reeves	more	-	15
Wyoming	Wilson	less	-	5

DISEASES OF CEREALS

SOME DISEASES OF BARLEY AND CORN REPORTED FROM IOWA, 1929

R. H. Porter has sent in the following notes:

BARLEY

Stripe (Helminthosporium gramineum). More than usual. Loss estimated 5 per cent. Abundant this year in northern Iowa and to some extent in other parts of the state. Late seeded grain escaped the disease. The soil temperatures up to April 25th were low and favorable for infection but much barley was seeded after May 1st. Ceresan on all varieties gave satisfactory control.

Loose smut (Ustilago nuda). More than usual. Loss, 1.5 per cent. The increased amount of Velvet barley which is being grown has increased the problem of loose smut. This variety is apparently more susceptible than the common barleys.

CORN

Cob-rot (Basisporium gallarum). Throughout the state, much more than usual and more than 1928. Caused 3 per cent reduction in yield and 4 per cent loss in quality, total loss 7 per cent. Dry rot is unusually prevalent this year, not only on the badly shriveled ears but also in the butts of ears which appear normal, in weight. The organism is fruiting abundantly this season. It is probable that seed corn will carry an abundance of infection.

DISEASES OF FRUITS

ROUGH BARK (PHOMOPSIS MALI) ON APPLE IN OREGON (1929)

This disease exists in Josephine and Jackson Counties. In two orchards in Jackson County, the leaf spot was so severe in June as to cause loss of more than 50 per cent of the leaves. Leaves produced after the late spring rains were free of leaf spot. In this district, the rainfall is so slight that fungicides are not usually necessary but the late unusual rains this spring were beneficial for leaf infection. In Josephine County where fungicides (dormant) are applied, there was no leaf spot although rough bark as a canker is rather serious in some orchards. (S. M. Zeller)

FRUIT SPOT (CYLINDROSPORIUM POMI) ON APPLE IN NEW JERSEY, 1929.

Fruit spot of apple is of major importance in New Jersey according to the following report from William H. Martin:

"Reported on Jonathan, Lobo, Stayman, Winter Banana, Wealthy Nero, Northern Spy, McIntosh, Wolf River, Winesap, Golden Delicious.

"Grimes. - Probably most serious disease of the apple.

"This year, first infection took place just before the 17-day after petal fall spray,"(April 27).

Figure 1. Percentage of phoma fruit spot found in different counties in orchard survey in N. J., 1929.

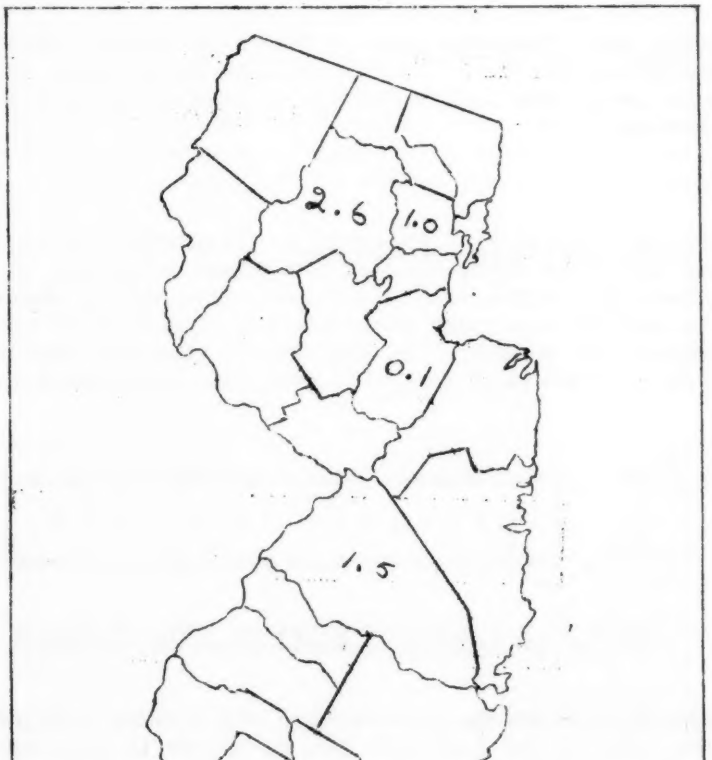

Table 3. Results of spraying and dusting experiment for the control of fruit spot, Del-Bay Farms, 1929.

Block	7 day (May 4)	17 day (May 13)	4 week (May 27)	10 week (June 28)	Clean Fruit: per cent	1-5 spots per apple: per-cent	5 spots per apple: per-cent
1	Dry-Mix.	Dry-Mix.	Dry-Mix.	Dry-Mix.	34.0	32.2	33.5
2	Lime-Sul.1-40	Lime-Sul.1-40	Lime-Sul.1-40	Lime-Sul.1-40	25.0	35.1	39.9
3	Lime&Iron Sul.	Lime&Iron Sul.	Lime&Iron Sul.	Lime&Iron Sul.	35.7	33.1	31.2
4	Thylox 35 lbs.	Thylox 35 lbs.	Thylox 35 lbs.	Thylox 35 lbs.	10.5	25.2	64.3
5	Dry-Mix.	Dry-Mix.	Dry-Mix.	Bord.2-6-50	30.6	33.1	36.3
6	Dry-Mix.	Dry-Mix.	Bord.2-6-50	Bord.2-6-50	51.7	28.8	19.5
7	Dry-Mix.	Bord.2-6-50	Bord.2-6-50	Bord.2-6-50	67.8	23.1	9.2
8	Bord.2-6-50	Bord.2-6-50	Bord.2-6-50	Bord.2-6-50	88.0	10.3	1.7
*9	Dry-Mix.	Bord.2-6-50	Bord.2-6-50	Bord.2-6-50	83.9	15.2	0.9
10	Dry-Mix.	Unsprayed	Unsprayed	Unsprayed	11.2	17.6	71.2
11	Dry-Mix.	Bord.2-6-50	Dry-Mix.	Dry-Mix.	35.1	31.5	33.4
12	Dry-Mix.	Dry-Mix.	Bord.2-6-50	Dry-Mix.	46.0	31.8	22.7
13	Dry-Mix.	Bord.1-3-50	Bord.1-3-50	Bord.1-3-50	79.5	16.4	4.1
14	Dry-Mix.	Dry-Mix.	Dry-Mix.	Cu.Lime Dust**	18.7	37.3	43.5
15	Dry-Mix.	Dry-Mix.	Cu.Lime Dust**	Cu.Lime Dust**	86.8	13.2	--
16	Dry-Mix.	Cu.Lime Dust**	Cu.Lime Dust**	Cu.Lime Dust**	96.8	3.2	--

* Plot 9 received an extra application of Bordeaux mixture on June 13.

** Cu. lime dust caused serious spotting of leaves and fruit - appearance of latter from these plots worse than from plots where fruit spot was severe.

WINTER INJURY TO PEACHES IN MIDWEST

The severe temperatures in the midwestern states on the 17th and 18th of January have caused considerable apprehension on the part of fruit growers, horticulturists, and plant pathologists as to the extent of damage to peach buds, and even to peach trees, as indicated by the accompanying reports.

The study of winter injuries is generally recognized as a proper subject for plant pathologists. In view of the apprehension felt and the lack of definite information, it is suggested that plant pathologists should make it a point at the earliest practicable date to get the exact facts as to the amount and extent of this injury.

Fortunately, exact data regarding injury to peach buds can be rather easily and quickly determined within a couple of hours after the peach buds have thawed out following a freeze, provided one can reach the orchards in question. WITH A SHARP KNIFE CUT THE BLOSSOM BUDS, PREFERABLY LENGTHWISE FROM THE BASE UPWARD, COUNTING THE SOUND BUDS AND THE DEAD BUDS ON EACH TWIG, AND RECORDING THE FIGURES IN A NOTE BOOK. IT IS BEST TO MAKE A SEPARATE RECORD FOR EACH TREE, TO SELECT TYPICAL BRANCHES OR TWIGS FROM DIFFERENT PARTS OF THE TREE, AND ALWAYS TO CUT ALL THE BUDS ON EACH TWIG SELECTED. MAKE IT A POINT TO SELECT TREES IN DIFFERENT PARTS OF THE ORCHARD, AND OF DIFFERENT AGES AND DIFFERENT VARIETIES. Not until this is done can the exact facts be obtained.

Fortunately for quick identification, dormant or nearly dormant winter-killed peach blossom buds are rather definitely and completely discolored being dark brown or almost black, while the sound buds with their greenish white color are in marked contrast.

It is not so easy to determine the extent of winter injury to the trunks of the trees, especially without cutting the tree down. Ordinarily the trunk just above the ground line will be the most injured part, though frost collar injury may extend just around the collar above and below the ground line. A mid-winter freeze of dormant trees, such as this one, may be expected to discolor the heart wood and even the sap wood clear out to the cambium, without necessarily much injury to the latter. In more severe cases, or trees with poor drainage, the cambium and the bark may be killed. Injury to the cambium and lifting the bark can be determined by tapping. Sometimes the bark is split open, especially on the southwest side, and even the wood may be split.

A 3/4-inch carpenter's gouge or a sharp, round-pointed knife may be used to cut cautiously into the bark, preferably with a vertical slit for the minimum amount of injury to a tree not badly frozen. If the observer is provided with a special boring apparatus which will take out a 1/4-inch cylinder, examinations can be made and the hole plugged without sacrificing the tree. In this particular freeze, it is suggested that examinations be made of the trunks, at least through the bark and cambium, and if practicable through the trunk. Damage to twigs and smaller branches can easily be determined by cutting with a sharp knife.

It might be well, also, to look for winter injuries on the cluster buds of pears and apples and on the bodies of these trees, and determine the type or character of the injury, whether it is winter sunscald, freezing throughout the trunk, or cambium injury.

(M. B. Waite, January 29)

Excerpts from the Weekly Weather and Crop Bulletin for the Week ending January 21, 1930.

Arkansas: Zero temperatures or lower in all but southeast portion on 18th; 16° to 20° below zero in north portion. - Fruit good, except peaches, which may be killed in some portions.

Indiana: Moderate temperatures at beginning, followed by coldest weather since 1918. - Fruit buds still undamaged, except peaches, which apparently were mostly killed.

Illinois: On 18th, minimum 16° to 25° below zero in each of the three divisions; coldest in 11 years at many stations.

Iowa: Temperatures 25° to 32° below zero in many sections on 18th. - Peaches believed killed.

Missouri: Severe cold all week; lowest temperatures for January for 6 to 10 years. - Peach buds in Ozarks probably damaged.

Reports of Correspondents

Illinois: On the 17th and 18th of January, we had temperatures throughout the state ranging from 15° to 22° below zero. The temperatures in the southern end of the state were almost as low as those in the northern end. This cold area extended over southern Illinois, Kentucky, and southern Indiana. As a result of this extreme cold, it is probable that 100 per cent of the peach fruit buds are killed and that, in addition, there will be serious injury to the trees themselves. (H. W. Anderson, January 25).

Indiana: In a letter to J. W. Roberts dated January 18 from Vincennes Indiana, Mr. Leslie Pierce writes that a minimum temperature of -15° was reached in town and that lower temperatures occurred in the orchards. Peach fruit buds were thought to be badly damaged if not totally destroyed.

In a second letter dated January 20 after he had time to make examinations he reported as follows:

"Since the freeze of January 18, I have examined hundreds of peach buds from several orchards in this section and the results indicate that the crop has been totally destroyed. All of the buds that I have examined were taken from the tops of the trees in the highest ground in the orchards. I have talked to several growers here and they are all of the opinion that the entire crop is killed. Mr. Frank Street, Henderson, Kentucky, writes that the peach buds in his section are all dead. The minimum temperature at his place was -10.5°. Minimum temperatures reported from Ohio, Indiana, Illinois, Kentucky, Missouri, Arkansas and Oklahoma would indicate that the peach buds in all those states have been destroyed by frost."

Arkansas: Temperatures have dropped at night to 15° below and 21° below zero. The general consensus of opinion is that there is very little chance for a peach crop in this section. (January 23)

I have been told that they had a temperature of 8° below zero at Hope. In the Nashville section, the present estimate is that about 10 per cent of the buds are still alive. We do not know definitely how many buds were examined to obtain this estimate but at the present time that is all the information we have from the main peach producing section. (January 27)

(John C. Dunegan, Fayetteville in letters to J. W. Roberts).

More Exact Data Needed.

An opportunity is here presented to study winter injury and to render a service by obtaining definite information on the extent and amount of damage resulting from these low temperatures.

In the above note, Dr. Waite has told how to make the determinations. Those who find it possible to do so can be of assistance by getting into the orchards, making the examinations - bearing in mind the directions outlined, and reporting the results to the Plant Disease Survey which will act as a clearing agency for the information.

(R. J. Haskell, January 29)

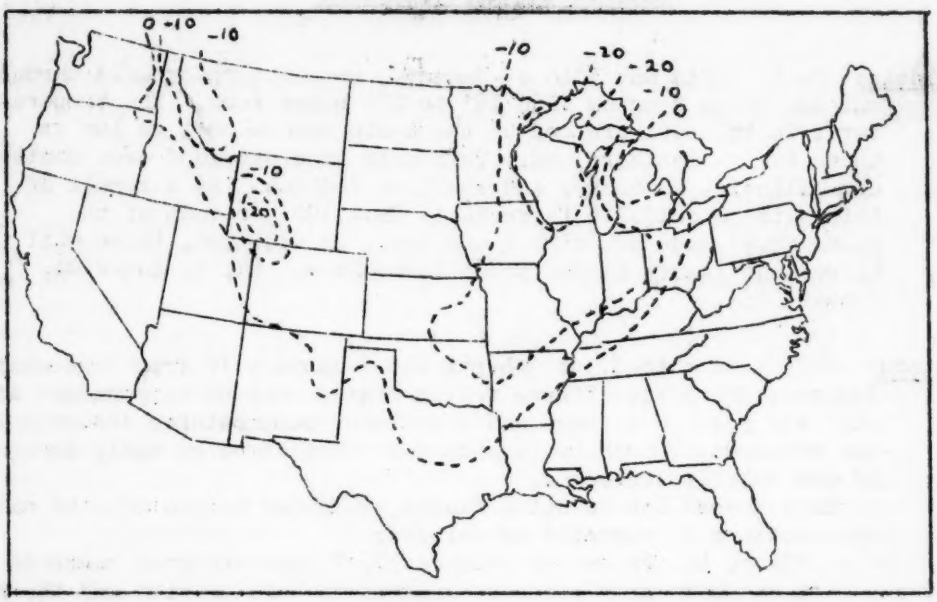

Figure 2. Map showing areas where subzero temperatures occurred at 8 a.m. Eastern Standard Time, Saturday, January 18, 1930. (From U. S. Dept. Agr. Weather Bur. Daily Weather Map for January 18).

Table 4. Number of peach trees in states where freezing damage has been reported. (1925 census figures)

State	No. of trees
Indiana	2,046,657
Illinois	4,139,100
Kentucky	1,994,033
Iowa	344,535
Missouri	2,785,647
Arkansas	4,344,322
Total (6 states)	15,654,294
Total (United States)	89,035,019

Note: About 17.6 per cent of the peach trees in the United States are growing in this area.